Title: Paleomagnetic study of the Great Foum Zguid dyke (southern Morocco): A positive contact test related to metasomatic processes

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Abstract: When a paleomagnetic pole is sought for in an igneous body, the host rocks should be subjected to a contact test to assure that the determined paleopole has the age of the intrusion. If the contact test is positive, it precludes the possibility that the measured magnetization is a later effect. Therefore, we investigated the variations of the remanent magnetization along cross-sections of rocks hosting the Foum Zguid dyke (southern Morocco) and the dyke itself. A positive contact test was obtained, but it is mainly related with Chemical/Crystalline Remanent Magnetization due to metasomatic processes in the host-rocks during magma intrusion and cooling, and not only with Thermo-Remanent Magnetization as ordinarily assumed in standard studies. Paleomagnetic data obtained within the dyke then reflect the Earth magnetic field during emplacement of this well-dated (196.9 +/- 1.8 Ma) intrusion.

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